

Description

Enabling a User to Have a Custom Desired Experience While Accessing an Electronic File

BACKGROUND OF INVENTION

[0001] *Field of the Invention*

[0002] The present invention relates to digital systems, and more specifically to a method and apparatus for enabling a user to have a custom desired experience while accessing an electronic file.

[0003] *Related Art*

[0004] An electronic file generally contains many bytes of data, which can be accessed by corresponding user applications. For example, a word processing software (such as MS-Word software and Word Perfect software, widely available in the market place) may enable a user to edit/add/delete the content of a corresponding electronic file. As another example, an electronic file may contain data

representing music, and the data may be accessed by technologies such as MP3-players to play the music.

[0005] There are generally various experience attributes that are controlled by a hardware and software using which an electronic file is accessed. For example, with respect to word processing software, various visual features and sounds are controlled by the word processing software, the document internal attributes, and/or the operating system on which the word processing software is supported.

[0006] In one prior word processing software implemented in MS-Windows operating system, the default display attributes (e.g., background and foreground colors, cursor shape) may be controlled by appropriate configuration of various options in the processing software. option further provides that the same display attributes as those specified for the operating system. However, the attributes specified internal to a document generally override the default display attributes. In other words, a user may specify custom desired display attributes within the document or have the software use the attributes specified by the operating system or the user application.

[0007] One problem with such an approach is that the same de-

fault attributes are applied to all the electronic files accessed using the same user application. respect to the word processing software example of above, the same default attributes are generally applied to all the documents opened using the word processing software. On the other hand, a user may wish to have different default attributes for different files (without having to change the contents of the files). In general, what is therefore needed is an approach which enables a user to have potentially a custom desired experience while accessing each document.

BRIEF DESCRIPTION OF DRAWINGS

[0008] The present invention will be described with reference to the accompanying drawings briefly described below.

[0009] Figure (Fig.)1 is a block diagram illustrating the details of an embodiment of a digital processing system implemented substantially in the form of a software.

[0010] Figure 2 is a flow-chart illustrating the manner in which a user may be enabled to have a custom desired experience while accessing an electronic file according to an aspect of the present invention.

[0011] Figure 3 is a text depicting an example experience profile in one embodiment.

[0012] Figure 4 is a user screen illustrating the manner in which a user may be enabled to associate a custom desired experience profile and an electronic file in one embodiment.

[0013] In the drawings, like reference numbers generally indicate identical, functionally similar, and/or structurally similar elements. The drawing in which an element first appears is indicated by the leftmost digit(s) in the corresponding reference number.

DETAILED DESCRIPTION

[0014] *1. Overview*

[0015] According to an aspect of the present invention, a digital processing system enables a user to specify different experience profiles associated with different electronic files. In an embodiment, the experience profile is provided external to the associated electronic file. Each experience profile may contain various desired experience attributes, which control the user experience when an associated electronic file is accessed.

[0016] By including the desired experience attributes in an experience profile and associating the experience profile with an electronic file, a user may have a custom desired experience while accessing each electronic file. In addition,

each experience profile may be associated with multiple electronic files as the experience profile is provided external to the electronic files.

[0017] Also, a user may change/control the experience in accessing only some of the electronic files without having to change the content of these files, as well as without affecting the experience while accessing other files by appropriate use of the experience profiles provided according to various aspects of the present invention.

[0018] Another aspect of the present invention experience attributes controlled by dissimilar applications also to be part of an experience profile. For example, a user may associate a specific song to be played when accessing a document using word processing software.

[0019] Several aspects of the invention are described below with reference to examples for illustration. It should be understood that numerous specific details, relationships, and methods are set forth to provide a full understanding of the invention. One skilled in the relevant art, however, will readily recognize that the invention can be practiced without one or more of the specific details, or with other methods, etc. In other instances, well known structures or operations are not shown in detail to avoid obscuring the

invention.

[0020] *2. Processing System*

[0021] Figure 1 is a block diagram illustrating the details of digital processing system 100 implementing several features of the present invention substantially in the form of software in an embodiment of the present invention. Digital processing system 100 may contain one or more processors such as processing unit 110, random access memory (RAM) 120, secondary memory 130, graphics controller 160, audio controller 170, network interface 180, and input interface 190. All the components may communicate with each other over communication path 150, which may contain several buses as is well known in the relevant arts. The components of Figure 1 are described below in further detail.

[0022] Processing unit 110 may execute instructions stored in RAM 120 to provide several features of the present invention. Processing unit 110 may contain multiple processors, with each processor potentially being designed for a specific task. Alternatively, processing unit 110 may contain only a single processor. RAM 120 may receive instructions and data from secondary memory 130 and network interface 180 using communication path 150.

[0023] Graphics controller 160 generates display signals (e.g., in RGB format) to a display unit (not shown) based on data/instructions received from processing unit 110. The display unit contains a display screen to display the images defined by the display signals. Input interface 190 may correspond to a key_board and/or mouse, and generally enables a user to provide various inputs that define an experience profile, associate an experience profile with an electronic file, etc. Audio controller 170 may control audio reproduction units such as speakers to perform tasks such as playing music (or any other sounds) as specified by various instructions.

[0024] In an embodiment, the experience attributes relate to the manner in which graphics controller 160 (e.g., colors, font sizes), input interface 190 (e.g., cursor type/size/speed), and audio controller 170 (the volume level, and possible the specific music file selected) provide an experience environment for the user. Various aspects of the present invention enable the corresponding experience attributes to be controlled to provide a custom experience for a user while accessing each individual electronic file as described below in further detail.

[0025] Network interface 180 enables some of the inputs (and

outputs) to be provided on a network. Secondary memory 130 may contain hard drive 135, flash memory 136 and removable storage drive 137. Secondary memory 130 may store the data corresponding to experience profiles and software instructions which cause digital processing system 100 to provide several features in accordance with the present invention. Some or all of the data and instructions may be provided on removable storage unit 140, and the data and instructions may be read and provided by removable storage drive 137 to processing unit 110. Floppy drive, magnetic tape drive, CD_ROM drive, DVD Drive, Flash memory, removable memory chip (PCMCIA Card, EPROM) are examples of such removable storage drive 137.

[0026] Removable storage unit 140 may be implemented using medium and storage format compatible with removable storage drive 137 such that removable storage drive 137 can read the data and instructions. Thus, removable storage unit 140 includes a computer readable storage medium having stored therein computer software and/or data.

[0027] In this document, the term "computer program product" is used to generally refer to removable storage unit 140 or

hard disk installed in hard drive 135. These computer program products are means for providing software to digital processing system 100. Processing unit 110 may retrieve the software instructions, and execute the instructions to provide various features of the present invention as described below. The description is continued with reference to a method that enables a user to have a custom desired experience while accessing an electronic file.

[0028] *3. Method*

[0029] Figure 2 is a flow-chart illustrating the manner in which a user may have a custom desired experience while accessing electronic files according to an aspect of present invention. The flow-chart is described with reference to Figure 1 merely for illustration. However, the features can be implemented in other environments according to several aspects of the present invention. The method begins in step 201, in which control immediately passes to step 210.

[0030] In step 210, digital processing system 100 provides a user the ability to define experience profiles, with the experience profile containing experience attributes. The experience profile may be provided external to the electronic

file. That is, the experience attributes may not be embedded in the electronic file. In an embodiment described below, each experience profile is provided in the form of a separate file. The experience attributes determine the user experience in accessing an associated electronic file as described below.

[0031] In step 220, digital processing system 100 provides a user the ability to associate experience profiles with each electronic file. In an embodiment, the user may either voluntarily associate the experience profiles, or alternatively digital processing system 100 may prompt the user (by displaying a text message) to select an experience profile from a pre-defined set of experience profiles if no experience profile is associated with the electronic file.

[0032] In step 240, digital processing system 100 receives an input indicating that the electronic file is to be opened. For example, the input may be received in response to a user providing an instruction to open (e.g., by clicking on the file name) the electronic file.

[0033] In step 260, digital processing system 100 controls the experience attributes according to the experience profile while providing access to the electronic file. The experience attributes define the overall experience of a user

while the electronic file is accessed. Control passes to step 299 in which the method ends.

[0034] The user may thus have a custom desired experience while accessing an electronic file. The description is continued with reference to the content of an example experience profile, and the manner in which the contained example experience attributes affect the experience of a user accessing an associated electronic file.

[0035] *4. Example Experience Profile*

[0036] Figure 3 is shown containing text depicting the experience attributes of an example experience profile in one embodiment. The set of experience attributes may be used to control, for example, values corresponding to visual and listening related attributes, which together define the experience of a user while accessing an associated electronic file. Experience profile is shown containing lines 310 through 360 respectively indicating the desired values corresponding to three experience attributes corresponding to font, cursor, and the music. Each line is described in detail below.

[0037] Line 310 contains the text, "Font _ 'Appearance: Bold', 'Color: Blue', Size: 'medium'", which indicates that the default font of the text contained in the electronic file

(associated with the experience profile) appears in Bold, Blue color, and medium size (e.g., 12). The comments (following the # sign) in the line indicate that the defaults specified (in the experience profile) are overridden by the document internal format or by application defaults, but are of higher priority than the defaults specified by the operating systems, also as noted above.

[0038] Line 340 contains the text, "Cursor _ 'Shape: Flower', 'Color: Red'", which indicates that a display attribute corresponding to the shape of the cursor would be a red flower. Line 360 contains the text, "Music_'Song: m:\mydir\songs\Track10', 'Volume-low'", which indicates that a song corresponding to Track10 (stored in a directory structure m:\mydir\songs) is to be played at a low volume while accessing the associated electronic file (which may correspond to an editable word processing file).

[0039] The description is continued with respect to a user interface provided by digital processing system 100 in one embodiment that provides the user the ability to associate the electronic file using the experience attributes specified in an associated experience profile.

[0040] *5. Example User Interface*

[0041] Figure 4 is a screen illustrating the details of implementation of an example user interface that may be used to associate an experience profile with the electronic file being accessed. The screen is shown containing Title Bar 405, Menu Bar 410, Tools Bar 420, Explorer Bar 430, Explorer Window 440, and Content Window 450. Each component is described in detail below.

[0042] Title Bar 405 displays the title of the corresponding one of the folder selected by the user. The Title Bar 405 is shown containing Exploring – subfolder445–A, indicating that subfolder445–A (contained in Folder 445) is selected by the user. Menu Bar 410 is shown containing multiple menus (e.g., File, Edit, View, etc.,). Each menu contains sub-items (e.g., Open, Cut, Copy, etc.,) that may be used to perform various operations on the file in a known way.

[0043] Tools Bar 420 provides quick access to commonly used features. Tools Bar 420 may be customized by adding/removing features (e.g., Back, Forward, Up, Cut, Copy, Paste etc.,).

[0044] Explorer Bar 430 is shown containing 'Folders' indicating that Folders are displayed in the form of a directory structure shown in Explorer Window 440. Explorer Window 440 is shown displaying a root directory 'Rfolder 441' which in

turn contains 'Folder442' through 'Folder449'. Folder445 is shown selected (indicated by dotted lines), and the user further selects subfolder445-A (indicated by bright dotted lines) from multiple of subfolder445-A through 445-E contained in Folder445.

[0045] Content Window 450 is shown containing five electronic files: File451, File452, File453, File454, File455 and File456 (contained in subfolder445-A). A user may select (by clicking the mouse) File455 (shown in Bold) to access File455. The user may right click on the mouse with cursor pointing to File455.

[0046] A drop-down menu containing various options Open, Print, Profiles etc., may be displayed. Assuming the user selects the 'Profiles' option, various experience profiles available as an option are displayed. The user may select 'ExperienceProfile472' (shown in Bold) from the list of experience profiles. For illustration, it is assumed that ExperienceProfile472 corresponds to the example experience profile described above with reference to Figure 3.

[0047] If a user requests opening of file File455, digital processing system 100 opens File455 using the experience attributes specified in Experienceprofile472. Continuing with the above example, MS-Word document (File455)

may be opened with text being displayed in bold and blue, red flower cursor, and a song corresponding to Track10 being played at a low volume while the file is accessed.

[0048] From the above, it may be appreciated that the experience attributes contained in an experience profile can be from dissimilar applications. In the above example, a user may cause a song to be played while editing a document (using, for example, a word processing software).

[0049] In one embodiment, in case of conflicting values for an experience attribute, the defaults ("operating system defaults") specified in an operating system, the defaults specified by an application ("application defaults"), the value specified by an experience profile, and the internals of a documents are provided are overridden in that order. As an illustration, if the cursor shape is specified as star, flower, and mouse respectively by the operating system, application and experience profile respectively, mouse is as the cursor since the star value is overridden by flower and flower is in turn overridden by mouse.

[0050] Thus, using experience profiles such as that described above with reference to Figure 4, a user may have a custom desired experience while accessing electronic files

according to several aspects of the present invention. However, digital processing system 100 generally needs to be implemented to support the use of such experience profiles. A general approach in an example implementation is described below in further detail.

[0051] *6. Implementation*

[0052] Figure 5 is a block diagram logically illustrating the manner in which several aspects of the present invention can be implemented. The block diagram is shown containing application blocks 510-A and 510-B, interface block 530, association block 560, and association table 565. Each block is described below in further detail.

[0053] Application blocks 510-A and 510-B represent user applications such as word processing software, music players. For illustration, it is assumed that application block 510-A represents a word processing application, and application block 510-B represents a software block which enables music to be played. It is further assumed that each application block provides a suitable pre-specified interface using which the corresponding application can be instantiated and various experience attributes can be specified. The design of such interfaces generally depends on the implementation of the specific user application,

and (the design) will be apparent to one skilled in the relevant arts.

[0054] Association block 560 stores (in association table 565, implemented in a memory) data indicating the association of experience profiles with the corresponding electronic files. Alternatively, data representing the association may be stored in a distributed/fragmented manner associated with each electronic file. In general, when a user indicates the association of an experience profile with an electronic file, the corresponding data may be updated.

[0055] Interface block 530 receives various inputs from the user in relation to specifying associations and invoking/instantiating the user applications. The data related to specifying associations is passed to association block 560. When the input indicates a request to access an electronic file, interface block 530 may interface with association block 560 to determine the experience profile(s) associated with the electronic file and the desired experience attributes contained in the profiles. Interface block 530 then instantiates the user application corresponding to the electronic file. The instantiation may be performed using known interfaces provided by the user application to ensure that the desired user experience is provided when

accessing the electronic file.

[0056] *7. Conclusion*

[0057] While various embodiments of the present invention have been described above, it should be understood that they have been presented by way of example only, and not limitation. Thus, the breadth and scope of the present invention should not be limited by any of the above described exemplary embodiments, but should be defined only in accordance with the following claims and their equivalents.